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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM J. GIBSON, JR

Appeal 2008-002819
Application 10/ 673,641
Technology Center 3600

Decided: September 30, 2009

Before WILLIAM F. PATE III, JENNIFER D. BAHR, and MICHAEL W.
O'NEILL, *Administrative Patent Judges*.

WILLIAM F. PATE III, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

This is an appeal from the final rejection of claims 1, 4, 6-15, 18-28, 31, and 33-45. Claims 2, 3, 5, 16, 17, 29, 30, and 32 have been cancelled. We have jurisdiction over this appeal under 35 U.S.C. §§ 134 and 6.

The claimed subject matter is directed to a support system for a so-called S-cam component of the braking system of large trucks. The support system is characterized by an elongated bushing substantially coextensive with the entire length of the S-cam drive shaft. A method is also claimed.

Claim 15, reproduced below, is further illustrative of the claimed subject matter.

15. A support assembly for supporting a [sic] S cam, the S cam having a generally elongate metal rod shank having an S-head at one end of the shank and a set of splines at the other end of the shank, the support assembly comprising:

a single elongate bushing rotationally supporting and substantially coextensive along the length of the S cam shank, the bushing extending from proximate the S-head to proximate the splines; and

a bushing holder, the bushing being substantially enclosed within the bushing holder.

REFERENCES

The references of record relied upon by the examiner as evidence of obviousness are:

Eksbergian	US 2,382,554	Aug. 14, 1945
Deibel	US 3,497,037	Feb. 24, 1970
Asano	US 4,346,535	Aug. 31, 1982
Morris	US 6,240,806 B1	Jun. 05, 2001
Boyer	US 6,450,073 B1	Sep. 17, 2002

REJECTIONS

Claims 1, 4, 6, 11, 13, 15, 18, 19, 24, 28, 31, 38, and 43-45 stand rejected under 35 U.S.C. 103(a) as unpatentable over Deibel.

Claims 1, 4, 6, 7, 15, 18-20, 28, 31, 33, 34, 39, 41, and 43-45 stand rejected under 35 U.S.C. 103(a) as unpatentable over Morris in view of Eksbergian.

Claims 12, 14, 25, 26, 27, 40, and 42 stand rejected under 35 U.S.C. 103(a) as unpatentable over Deibel in view of Asano.

Claims 12, 14, 25, 26, 27, 40, and 42 stand rejected under 35 U.S.C. 103(a) as unpatentable over Morris in view of Eksbergian and Asano.

Claims 8-10, 21-23, and 35-37 stand rejected under 35 U.S.C. 103(a) as unpatentable over Morris in view of Eksbergian and further in view of Boyer.

ISSUES

With regard to the § 103 rejections based on Deibel, Appellant argues that Deibel fails to teach or suggest an elongated bushing where the bushing is coextensive along the length of the shank. Accordingly, the issue for our consideration is whether the Appellant has established that the Examiner erred in rejecting claims 1, 4, 6, 11, 13, 15, 18, 19, 24, 28, 31, 38, and 43-45 as unpatentable over Deibel and claims 12, 14, 25, 26, 27, 40, and 42 as unpatentable over Deibel in view of Asano for the failure of Deibel to disclose a bushing coextensive with the shank.

With respect to the rejections based on Morris in view of Eksbergian, Appellant argues that if the teachings of Eksbergian were followed in the device of Morris and the bushing were made to extend more than half the length of the shank, the grease reservoir formed between the shaft and tube of Morris would be blocked by the bushing. Therefore, according to Appellant, the operating principle of Morris would be changed. This, according to Appellant, is evidence that the combination of Morris and Eksbergian would not have been obvious to one of ordinary skill. Therefore,

the issue for our consideration is whether Appellant has established that the Examiner erred in rejecting claims 1, 4, 6, 7, 15, 18-20, 28, 31, 33, 34, 39, 41, and 43-45 as unpatentable over Morris in view Eksergian, and whether the Examiner erred in rejecting claims 12, 14, 25, 26, 27, 40, and 42 as unpatentable over Morris in view of Eksergian and further in view of Asano as directed to a combination of references that teach away from the claimed subject matter. It is further noted that Appellant has not argued the rejection of any of the dependent claims, apart from the independent claims from which they depend. Accordingly, the dependent claims will stand or fall with the independent claims from which they depend. See 37 C.F.R. § 41.37(c)(vii).

Finally, with respect to the rejection based on Morris in view of Eksergian and further in view of Boyer, Appellant has chosen to base the patentability of these claims on the arguments offered with respect to Morris and Eksergian. Accordingly, we hold that these claims will stand or fall with independent claim 1, 15, or 28 from which they ultimately depend.

FINDINGS OF FACT

Deibel discloses a support assembly for an S-cam which is an intermediate device between a brake actuator 122 and brake lining 144 of a vehicle braking system. See col. 3, ll. 21-35. The actual support assembly consists of a bushing or bearing holder 140 which is coextensive with the S-cam shank 128. The S-cam shank is journaled in the bushing holder 140 by bearing 145, and it is sealed at each end with seals 146 and 148. See col. 4, ll. 17-32. It is noted that shank 128 is shown crosshatched as a metal in Fig. 6.

Morris also discloses a support system for an S-cam in a vehicle braking system. With reference to Fig. 4, Morris discloses a bushing holder or cam tube 54, with the S-cam camshaft or shank 52 journaled therein by bushings 59 and 60. See col. 4, ll. 44-52, col. 5, ll. 53 – col. 6, l. 27. See also, generally, col. 3, ll. 1-20. Morris differs from the claimed subject matter in that Morris discloses 2 bushings, one at either end of the bushing holder and the bushings are not coextensive with the S-cam shank.

Eksergian discloses a brake mechanism for a railroad vehicle. A pneumatic cylinder 25 moves brake lining 22, via pivotal arms 23 and 27. See pg. 2, col. 1, ll. 21-29 and ll. 36-56. The pivotal arms 27 and 23 are connected by means of a pivot portion 26. The pivot portion in Fig. 2 is illustrated with two bearings. The first, radial thrust bearing 29, is in a hardened bearing lining 34 and the second, axial thrust bearing 32, is inserted in the hardened bearing lining 35. Thus, Eksergian discloses a bearing shaft or shank with two bearings, one bearing proximate the spline and the other bearing proximate the opposite end.

Eksergian further shows an embodiment in Fig. 5, and teaches that the two bearings can be replaced with a single bearing. See page 2, col. 2, l. 73 – page 3, col. 1, l. 18. Thus, Eksergian teaches that two bearings on opposite ends of a journaled brake operating shank can be replaced by a single elongated bearing generally coextensive with the mounting tube.

Asano is cited by the Examiner merely to show that it is old in the art to machine components. Appellant does not take issue with the Asano patent.

Finally, Boyer has been cited to show a lubrication arrangement for a multiple spindle turret lathe. Each of the spindles is mounted in the turret

vial cylindrical bushing 28. See col. 2, ll. 66 – col. 3, l. 5. The bushing 28 is formed with an outer circular groove 34 for grease supply and a series of spiral inner grooves 40 and 42 connecting to the outer groove via supply holes 36. See col. 3, ll. 56 – col. 4, l. 8. Appellant does not contest the teaching of Boyer.

PRINCIPLES OF LAW

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). See also *KSR*, 550 U.S. at 406-407 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”).

The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. *KSR*, 550 U.S. at 416. A prima facie conclusion of obviousness may be supported by a showing that the claims are directed to a process, machine, manufacture, or composition of matter already known in the prior art that is altered by the mere substitution of one element for another known in the

field, and such modification yields a predictable result. See *id.* (citing *United States v. Adams*, 383 U.S. 39, 40). The Court further stated that:

[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

KSR, 550 U.S. at 417. When considering obviousness of a combination of known elements, the operative question is thus “whether the improvement is more than the predictable use of prior-art elements according to their established functions.” *Id.*

“[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review.” *In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983). The relevant inquiry is whether the claimed subject matter would have been obvious to those of ordinary skill in the art in light of the *combined teachings* of those references. See *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). “Combining the *teachings* of references does not involve an ability to combine their specific structures.” *In re Nievelt*, 482 F.2d 965, 968 (CCPA 1973).

The use of *per se* rules, while undoubtedly less laborious than a searching comparison of the claimed invention--including all its limitations--with the teachings of the prior art, flouts section 103 and the fundamental case law applying it. *Per se* rules that eliminate the need for fact-specific analysis of claims and prior art may be administratively convenient for PTO Examiners and the Board. Indeed, they have been sanctioned by the Board as well. But reliance on *per se* rules of obviousness is legally incorrect and must cease. Any such administrative convenience is simply inconsistent with section 103, which, according to Graham and its progeny, entitles an

applicant to issuance of an otherwise proper patent unless the PTO establishes that the invention as claimed in the application is obvious over cited prior art, based on the specific comparison of that prior art with claim limitations. We once again hold today that our precedents do not establish any rules of obviousness, just as those precedents themselves expressly declined to create such rules. *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995).

ANALYSIS

The rejections of claims 1, 4, 6, 11, 13, 15, 18, 19, 24, 28, 31, 38, and 43-45 as unpatentable over Deibel and the rejection of claims 12, 14, 25-27, 40, and 42 as unpatentable over Deibel in view of Asano.

We will not sustain these rejections. With regard to the axial extent of the bushings as claimed in independent claims 1, 15 and 28, the Examiner cites *In re Rinehart*, 531 F.2d 1048 (CCPA 1976) and states that to extend the bushing along the entire shank is a mere scaling up of a prior art object capable of being scaled up which would have been obvious to one of ordinary skill in the art. We note that the jurisprudence when used in this manner amounts to a *per se* rule of unpatentability. However, our reviewing court has carefully cautioned against the use of such *per se* rules. *Per se* rules used in this manner short-circuit the *Graham* inquiry. These rejections, instead of being based on reasoning with rational underpinnings, are based on this *per se* rule. Therefore, these rejections must be reversed.

The rejections of claims 1, 4, 6, 7, 15, 18-20, 28, 31, 33, 34, 39, 41, and 43-45 as unpatentable over Morris in view Eksergian; claims 12, 14, 25, 26, 27, 40, and 42 as unpatentable over Morris in view of Eksergian and further in view of Asano and claims 8-10, 21-23, and 33-35 as unpatentable over Morris in view of Eksergian and Boyer.

We will sustain these rejections. As noted above, Morris discloses the claimed subject matter except that the bushings in Morris, two in number, do not extend the axial extent of the S-cam shank. On the other hand, Eksergian teaches that two bearings mounted toward the ends of a brake actuator shank or pivot can be replaced with but a single bearing. In view of this teaching of Eksergian, it is our view that the exact axial extent of the bushings of Morris up to and including a bushing that extends the whole distance of the shank would have been *prima facie* obvious to one of ordinary skill in the art as specifically taught by the disclosure of Eksergian. The structure of Morris is a prior art element which can be modified as taught by Eksergian to yield predictable results.

Appellant argues that if the teachings of Eksergian were followed and a large axially extending bearing were placed in the structure of Morris, the central grease fitting would be blocked by the bushing. Appellant's argument is based on a misperception of the law concerning obviousness. Obviousness is not determined by the bodily incorporation of one reference into another. "Combining the teachings of references does not involve an ability to combine their specific structure." *See In re Nievelt*, 482 F.2d 965, 968 (CCPA 1973).

Furthermore, this argument of Appellant is belied by the disclosure of Boyer which has a bearing that extends axially and covers the grease fitting. However Boyer shows that grease can still be supplied to the journal via a circular groove 34. Thus Appellant's argument that the combination of Morris and Eksergian would block the grease fitting disclosed in Morris is not credited.

CONCLUSIONS

Appellant has established that the Examiner erred in rejecting claims 1, 4, 6, 11, 13, 15, 18, 19, 24, 28, 31, 38, and 43-45 as unpatentable over Deibel and in rejecting claims 12, 14, 25, 26, 27, 40, and 42 as unpatentable over Deibel in view of Asano. The rejections of these claims are reversed.

Appellant has not established that the Examiner erred in rejecting claims 1, 4, 6, 7, 15, 18-20, 28, 31, 33, 34, 39, 41, and 43-45 as unpatentable over Morris in view Eksergian; claims 12, 14, 25-27, 40, and 42 as unpatentable over Morris in view of Eksergian and further in view of Asano; and claims 8-10, 21-23, and 35-37 as unpatentable over Morris in view of Eksergian and further in view of Boyer. The rejections of these claims are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2009).

AFFIRMED-IN-PART

Vsh

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